



OTVARC Oscillator

The Oregon Tualatin Valley Amateur Radio Club Newsletter

October 1993

From the President's Desk

By Dale Mosby, N7PEX

In this issue of the newsletter we have some photos of the KG7HH Field Day site on Nicholi Mountain. Next month I hope to have some photos of the K7RO Field Day site on Triangulation Point. If someone in the club has photos of the OTVARC Field Day please let me know so I can get those in the newsletter the following month. A short article about the event would be great.

It is time to think about the OTVARC elections to be held in December. The club has a lot going for it and I hope to see some club members step forward and provide leadership for the coming year. If you are willing to serve as an OTVARC officer please give someone on the elections committee a call and let them know that you will help. The elections committee is chaired by Ed Reynolds, N7SNT, 636-8226. Assisting Ed are Janet Bell, WB7FJC, 648-4147; and Paul Schaff, WB7BBG, 244-7420.

At the October meeting Dennis Belles, WA7DRO, will give us a demo of amateur television, ATV. I hope to see you there.

[Editor's Note: I will try and bring some video from some Civil Air Patrol missions where we use ATV to bring live video to our command post from our aircraft]

73, Dale.

At the Next Meeting:

Wednesday, October. 6: Board meeting. 7PM - location is at Geno's (KA7KBH) place. Contact any board member for address.

Club meeting October 13. This month's program is given by Eric LeMoine, KB7TSN about his experience of taking Ham radio along with him on a recent climb of Mt. McKinley and getting a grade school involved in his climb via radio. Join us!

OTVARC Travelers

The OTVARC Travelers October campout will be Oct. 15, 16 and 17 at the Cascade Locks KOA. To get there, head East on Hwy. 84. Take exit 44 at Cascade Locks and follow the signs to Forest Lane Road. Turn of Forest Lane Road about 1/3 mile on the left hand side. The KOA has full hook-ups, dump station, store, showers, restrooms, rec hall, etc.

For a talk in, try the 147.04(+) repeater. We are uncertain if it can be used from the campground, but give it a try. In the park, use 147.42 simplex.

Newsletter Grows

Since a few folks have brought me submissions for the newsletter, it is back to the glory of 10 pages. Keep up the good work!

- Editor/Layout Man D. Reeves

The newest thing to report is that there is nothing new to report. You may recall that this whole thing was tabled a couple of months ago so the Washington County Commissioners could appoint another group to study it some more and try to work out a compromise. In my opinion, this is just plain typical government action, ie: if you don't know what to do, do nothing. There has been no progress on appointing those who will try to hammer out the problems and I can't even find out how the appointments will be made or who will actually make the selections for those who will do the work. It's all very vague at this point but we are as "on top of it" as we can be under the circumstances.

Some feel that "no decision" is a victory for the hams since it means we will not have to deal with more strict regulations that we already have. But do you know what we already have? It's not good since the County Building and Safety Department is currently applying regulations to ham antennas and towers that were designed to cover buildings and it makes for some very unreasonable situations, indeed. The regulations currently refer to "structures" which includes antennas and towers according to the County. They must be set back 10 feet (in most areas) from property lines and this includes guy wire earth anchors which are part of the "structure" according to the County. The maximum over-all height is not to exceed 60 feet including the highest part of the antenna and/or its support structure. I find these regulations unreasonable and I am not happy with them being left in place. Towers such as mine which are obviously higher than 60 feet were either put up a long time ago when different regulations were in place or were put up without the knowledge or permission of the County. There does not seem to be any way to go higher than 60 feet with permission in this County at this time. These regulations have not been challenged in court but I think they could be with a fair chance for success for the ham.

One way to at least temporarily solve this problem would be for your part of Washington County to join the City of Hillsboro. If you are located within a city, the city ordinances regarding antennas and towers apply instead of the county's. Right now, Hillsboro does not limit ham antennas or towers in any way. Unfortunately, this could change any time. Another way to solve the problem more permanently is to work to replace tower-hostile County Commissioners with more friendly ones at election time and get some decent regulations in place in Washington County that the surrounding jurisdictions can use as a model for writing theirs.

73, Stan Griffiths, W7NI

FCC Relaxes Business Restrictions

The Federal Communications Commission has enacted a major change in the law restricting amateur radio use for personal business and public service. Under the new rules, it will no longer be a violation to order a pizza or make an appointment via amateur radio. The Commission has acted to amend the Part 97 Amateur Service rules allowing for more flexibility in personal business and public service communications.

The amendment permits licensees to use the amateur service frequencies to assist with public service communications at races, parades, and educational activities. Personal communications which will no longer be prohibited include making appointments, ordering food, and collecting data for the National Weather Service.

Effective 30 days after publishing in the Federal Register (approximately September 15th), here is what you can do (with some exceptions) on the ham bands:

Any amateur-to-amateur communications are now permitted unless:
a. Specifically prohibited. These include:

1. Music (except for incidental space shuttle music);
 2. Communications facilitating a criminal act;
 3. Messages obscured by codes or ciphers;
 4. Obscene or indecent words or language; and
 5. False or deceptive messages, signals, or identification.
- b. Transmissions for compensation. The following exceptions apply:
1. Morse code practice and information bulletins (special criteria);
 2. Classroom teachers using ham radio in the classroom.
- c. Transmissions for the pecuniary benefit of the station control operator or his or her employer.

The following communications are permitted, but not on a "... regular basis" (not defined by the FCC):

1. Communications which could be reasonably furnished through other radio services;
2. Notices concerning sale or trade of amateur station apparatus; and
3. Retransmissions of government provided space shuttle, propagation, and weather forecast broadcasts.

Here are some examples of the old and new part 97.113 which covers prohibited communications:

OLD RULE: No amateur station shall transmit any communications which promotes the business or commercial affairs of any party. If anyone profits financially, it is an illegal transmission.

NEW RULE: An amateur may not be paid, direct or indirect, for his voluntarily provided communications.

OLD RULE: Except for emergency communications, the ham bands may not be used as an alternative to other authorized radio services.

NEW RULE: Amateur-to-amateur communications which could reasonably be furnished alternatively through other radio services will now be permitted on the ham bands—although not on a regular basis. This will allow amateurs to legally participate with the Weather Service, police and fire departments, parks and forestry service, and many other local, state, and federal agencies. *TNX Westlink Report, No. 654, July 29, 1993, and W5YI Report, Issue 16, August 15, 1993.*

Coming Soon... the
OTVARC Family Christmas Party
Wednesday, December 8, 1993

Fun: Raffle drawing or Kid stuff, Ham stuff, and other stuff
Food: Christmas Buffet, Roast Turkey, Ham and trimmings
Entertainment: 4 part mini-series, "Stanley Ham"

Tickets Available at the Octover and November Meetings
 Adults \$9.00 Children 4-12 \$5.40 Kids 3 & under Free

FOR SALE OR TRADE OR WANTED

Tower Parts for sale.

Rohn HBU Universal House Bracket	\$ 20
Rohn GB45G Guy Bracket	\$ 50
Rohn TB50 Tower Bushing	\$ 5
Rohn TB75 Tower Bushing	\$ 5
Rohn AB Wood Block Bearing	\$ 5
Rohn EP253 Guy Equalizer Plate	\$ 15
Rohn EP255 Guy Equalizer Plate	\$ 15
Rohn DT25 Drive Tool	\$ 5
Certificate Frames, 11 x 14	\$ 2

Call Stan Griffiths, W7NI, 649-0837

Misc. for sale:

Henry 2KD Amp - never used	\$1095.00
Pesonal FAX machine	\$200.00
2M HT - new	\$195.00
440 HT - new	\$195.00

Both of the above have 5W batteries
 For more info, call Jack N7CXK at 682-7898

Antennas for sale:

MET 440 circularly polarized sat. antennas 6
 element 144 17 element 440. \$50 each. Contact Bill,
 N7RYQ at 644-3739

Wanted:

Heath "Hot Water" 101 in good/excelent condition.
 Call Alan, AA7CV, 590-2305

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Product Review
by Alan Churchill AA7CV

First of all, this really isn't a "product review". It's more of a "concept review" in that what you're about to read isn't about a commercially available product. However, since there are thousands of these around, and since you may want to build one for yourself, and since the guy who invented this thing is a member of our club, and since he donated one to OTVARC, and since most people would think this is a "product review", we'll just call it that.

What is it? Well, it's not a HF mobile amp (although I am often asked if I am running "power" while mobile). It's not a speech compressor or "power mic" (although I am often complemented on my strong audio). It isn't a beam (although I often have QSOs with guys who are using beams and our reports are the same). It's every hams favorite topic... The Ultimate Antenna.

Don Johnson, W6AAQ started "messing" with mobile antennas and mobile operation 40 + 5 years ago. In fact, that is the name of his book on the subject. (It's available at Portland Radio.) It is easily the most complete book on how to get going on HF mobile. In this book, Don talks about his Big DK3 antenna. That is what this product review is all about.

The antenna covers 80 thru 10, tunes to 1.5 to one SWR (or better). It tunes all bands right from the driver's seat without getting out of your vehicle. You can build it yourself in just a few days (OK, weeks) with tools you have in your shop (OK, you can borrow a lathe). Even though he isn't in the manufacturing business, Don has offered to build one for those of us just too weak-fingered to build our own. By the time you're finished building the antenna, you will have less than \$70 invested. Others have actually gone into the manufacturing business and sell them through ads in 73, CQ & Worldradio for under \$300. I think it's a bargain.

Physically, the antenna consists of a 3-4' piece of 2" thin-wall pipe topped by a 1.5' coil which has a 66" whip screwed into it. If your antenna is mounted 1' off the ground this gives you a total height of around 12' which is well below most bridges. If you can get the top of the antenna at 13' 6" you will enjoy better field strength. I mounted my antenna on the right side of the car because the exhaust comes out on the left side. Don't do this. If you have a similar exhaust situation, move the muffler & tail-pipe to the right side of the car. Two reasons. 1. Trees hang lower on the right side of the road. I am constantly "hedging" as I drive along residential streets. 2. Visibility. I occasionally need to look out the window and see how far the coil is extended to know if I've missed my point of resonance. With the antenna on the right side of the car, I have to get out of the car to see. Not good.

Tuning the antenna is accomplished with a screwdriver motor which is mounted in the 3' pipe. It extends or retracts the coil from the pipe which allows you to tune your antenna to resonance on any frequency from 3.5 to 30 MHz. I built a little control box and mounted it on the dash. The box has an "up/down" switch and pushbutton (you could use a DPDT momentary momentary). and an antenna switch. I use the antenna switch to select either the rig into the antenna or my MFJ SWR analyzer into the antenna. If I'm trying to snag a "rare one" I can get that puppy right down to 1.1 to 1 and know all 100 watts is going out into space instead of talking to itself in the coax. I operate mostly 20 while mobile and found that if I tune the antenna to 14.250, it will be under 1.5 to 1 on the entire band without retuning. 40 and 80 is another story. Moving 5 to 10KHz on those bands requires "tweaking" the pushbutton for a perfect match. The coil has a Q of over 200 so a narrow bandwidth is the price we pay for efficiency.

Who have I talked to? Nearly every state since I started using the antenna three months ago. Several weeks ago, I had a "three-way" going with a trucker in Kansas and a fellow in San Diego. We talked for three hours on 20 with almost no interruption. The trucker was running 1KW mobile with a Texas Bugcatcher. The San Diego ham had a stacked array pointed at me and there I was with a puny 100 watts into this W6AAQ thing. They couldn't believe it. I think only my rest stop breaks convinced them I really was mobile. Last night I QSO'd with New York, Virginia, Atlanta, Sarasota and lots of guys in the Midwest. I even checked into the Naturalist net (complete nudist camp listing available) just for fun. Yes, there really is such a thing and the net is run out of Alaska. Gads, if I were going to be a nudist, I wouldn't live in KL7 land!

The natural extension of this "fully tunable" concept includes a dipole (two antennas mounted butt to butt) and maybe even a three element beam. Can you imagine a beam that is continuously tunable from 80 thru 10? Yipes!

Would you like to buy one "right off the shelf"? In fooling around with this great antenna, I found that Dale LeBarron W7FBP, Henry Stewart N7WMW and Debbie Wachner (call not yet requested) have been building these in Henry's basement. Give Henry a call at 654-3350 for details.

The antenna can be built just "bare bones" or with an automatic resonator that makes it almost a "hands off" operation.

Well, that about covers it. I'll bring the antenna in for a "show and tell" the next time I'm in town on a meeting night. For more info, run (don't walk) to PRS and pick up Don's book. Great radio fun is right out in your driveway.

Update: Since I first wrote this article, we bought a new Honda Accord so I had the fun of installing the antenna again. First of all, if you are going to buy a new car and go HF mobile, give serious consideration to what you will look like with all your hair pulled out. Finding a wireway is very difficult and it took me 24 hours of work to install the mobile again. It is done though and here are some tips.

1. Go to Watt Welding Supply for your welders cable. It's only \$1.49 per foot for size 1. This is capable of carrying 250 amps which you probably won't need (unless your call is W7NI) but the huge wire size cuts down on motor noise pickup. Additionally this large cable will run your 1KW amp should you ever get one. As always, go straight to the battery to get your power. No shortcuts to the fuseblock allowed.
2. Go to Glenn at C & R Welding on 82nd for building your mount. He built a superior detachable mount for me for only \$25. I can now dismount the antenna in 30 seconds and store it in the trunk. This is the consolation I had to make with my wife in order to even put radios in the new car.
3. Do the wiring of the car during a weekday while your mate is at work. Believe me, it is upsetting to a wife to see her brand new car totally taken apart and the drill motor running constantly attacking that brand new sheetmetal.
4. Get a car with the muffler on the right side so you can mount the antenna on the left side.

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"When You're in the Market for Excellence"

Minutes of the Sep. 1 Board Meeting

1. Minutes of August Board Meeting approved
2. The meeting was attended by Dave Morrison, Carl Clawson, Al Berg, Lynn Hurd, Wes Allen and Bradley Beach.

Old Business:

3. Treasurers report: \$7000 transferred to club from SEAPAC.
4. No action on a home for the Yaesu SP600.
5. 501 (c) (3) Status: Brad will contact Buck Summers at Hoodview for assistance in filling out the application.
6. Carl will call Dee regarding the ladder for the emergency trailer.
7. Wes reported that the repeater on the KGON tower is in service. Motorola is assigning a new engineer to Portland to do operation and maintenance on the tower. Coverage area is not known yet.
8. Wes reported that Dale Mosby received a complaint from a SeaPac volunteer at the last meeting that they had not been invited to a pizza party as a thank you for volunteers. Brad and Al explained that all volunteers had been given a special SeaPac cloisonne pin as a thank you for volunteering instead of a pizza party. This was explained to all volunteers when they were given the pin. This matter was referred to the SeaPac Board.
9. Al Berg reported that Jim Young, WB6FNI of JPL is firm for the SeaPac banquet entertainment. Jim will present a slide show on JPL's Space program.
10. Wes reported that RG213 is \$600 per 1000-foot roll. Wes will contact Tom Hill for the name of a supplier of #12 Zip cord.
11. PURPLWACCO's report: everything on hold until March 1994. Stan has contacted the county but they have not done anything yet about getting to work on revisions to the tower ordinance. We are current with our attorney and still have money in the bank.
12. Al Berg suggested that Brad write all committee chairpersons to invite them to the board meetings.

New Business:

13. We need to check out the price of dinner at the Elks. We pay \$50 per month room rent. We pay \$6.50 for dinner including coffee. while the member price is \$5.50. We need to have an Elk member-sponsor at every meeting. Wes will check everything with the Elks since new people are now in charge at the Elks.
14. We need a newsletter editor as soon as possible.

Meeting adjourned at 8:20 pm.

OTVARC Photo Gallery - Field Day Pix

Editor's note: Since some members have given me positive feedback on seeing pictures in the newsletter, here are a few photos which come by way of Dale Mosby. Photos and captions follow on pager 8 and 9.]

The KG7HH Field Day site was a gravel pit on Nicholi Mountain. Operators were Jim Washer, KG7HH, Dave Aucsmith, N7VKC, and Dale Mosby, N7PEX. We set up the station Friday, enjoying a very nice warm day. We put up a triband beam and two dipoles fed with ladder line. The site has a gravel pile about 18 feet tall that we selected as the spot for our beam. Our first attempt at getting the beam up used two Rohn 25 tower sections and a mast. In hind site it now seems obvious that three people could not hope to hold an antenna of this height. Once the tower started to oscillate a bit the inevitable happened and down it came. Due to a daring last minute push we managed to get the tower to fall so the antenna went over the side of the gravel pile. After some work straightening aluminum and removing a tower section we got a more modest antenna in the air.

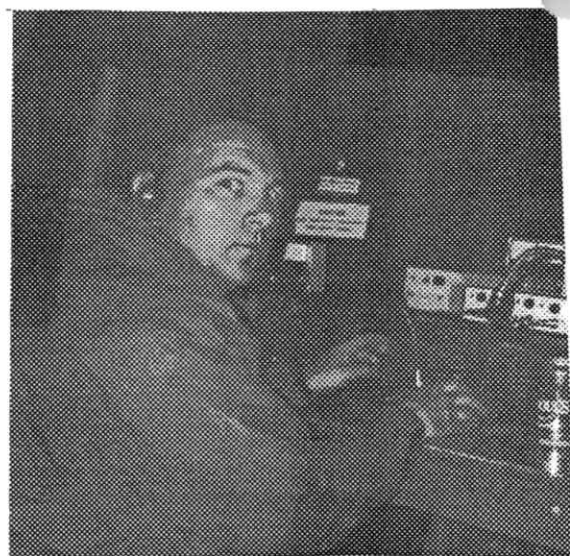
In contrast to the warm Friday Saturday was cool, and Saturday night was cold and windy. During the day we put one person at the station and another person at the computer logging. That left the third person free to relax or work on some VHF contacts. We made a couple dozen VHF contacts and decided to stop with that number and concentrate on HF for the remainder of Field Day.

Dinner was provided by Lori Washer, Mary Jo Mosby, KB7NJE, and Harmony Mosby, N7XFR. About 9 PM we went to a single operator while two people slept. The night was very windy but fortunately the tent was well anchored. It was also quite cold. About 5 AM we were back to the three of us at the station. We made over 600 HF contacts and had a good time.

OTVARC Photo Gallery - Field Day Pix



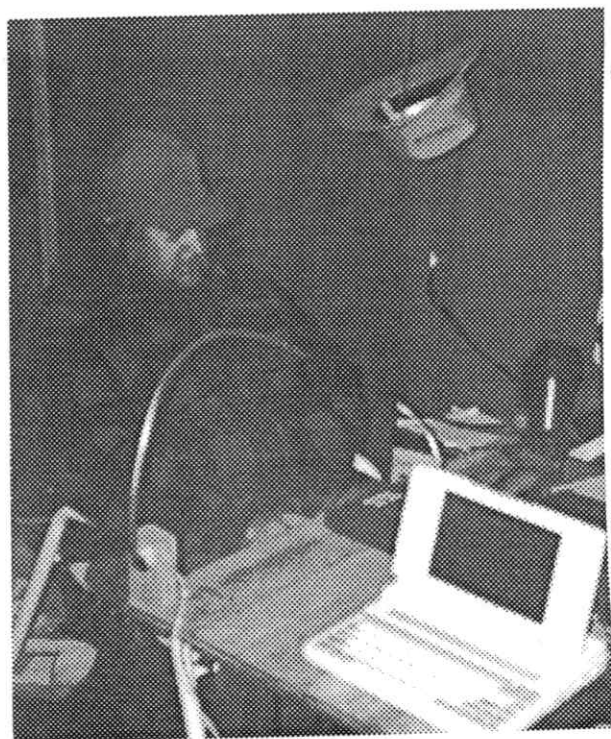
Loading up the truck are Dave Aucsmith (left), and Jim Washer.



Dale Mosby at the station.



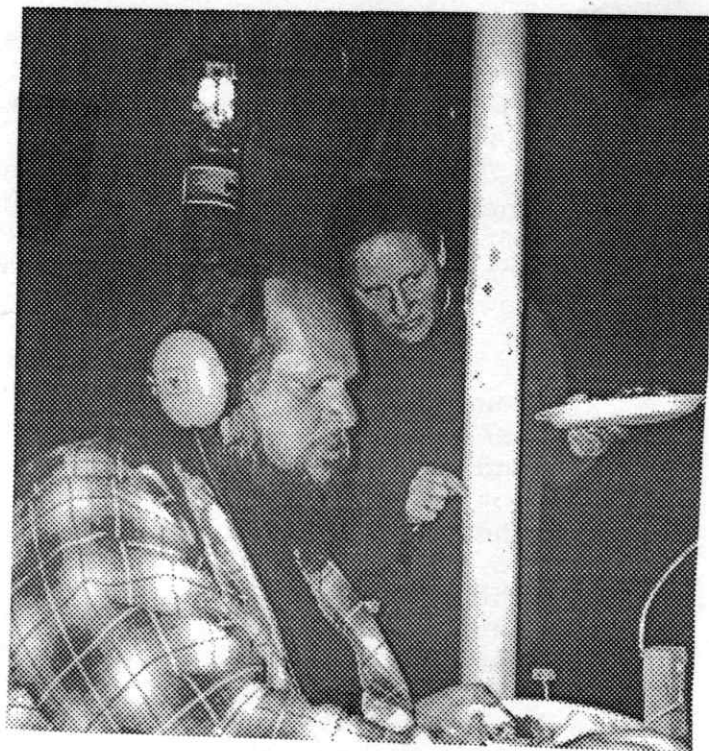
The absolute minimum equipment required to operate a Field Day station. (Really, Mary Jo, I need all this stuff.)



Jim appears to be asleep but he claims to be using the headset and actively making contacts.



Dale logs contacts while Dave Operates.



Jim Washer is at the station while Lori Washer looks on.

1993 OTVARC MEMBERSHIP APPLICATION AND RENEWAL FORM

Name _____ Call _____
 Address _____ Class _____
 City, State, Zip _____ Home Phone _____

You may combine your ARRL membership and OTVARC membership. We handle all the details and it makes money for the club. Thanks.

OTVARC New Membership..... \$12/yr.

OTVARC Renewal..... 10/yr

OTVARC Associate..... 10/yr.

Family Member..... 5/yr

Life Membership..... See Treasurer.

ARRL Membership..... 30/yr.

ARRL (65 & older)..... 24/yr.

ARRL Family Member..... 12/yr.

OTVARC Total \$ _____

ARRL Total _____

Grand Total _____

Date Paid _____

Check Number _____

Mail to: OTVARC P.O. Box 5132 Aloha, OR 97006-0132

FAULTY PRODUCT ALERT

AEA 440 ISOPOLE

I have had an AEA 440 Isopole up in the air for several years and until recently it has performed well. A short time ago I moved it from a pole I had on a second floor deck to my tower. I didn't use it for some time and when I finally did I noticed that the S meter was giving less than a 50% reading on transmit. Not being a tower climber I lived with it until recently when some changes on the tower were made. After taking the antenna down the coax N fitting was unscrewed and we found that all 4 of the small fingers in the panel mount fitting on the bottom of the antenna had broken off. No problem? We figured out how to dismantle the antenna but when we did we couldn't figure out how to fix it. No problem? A call to AEA was made and the service person told me to throw it away as it could not be fixed! Definitely a problem. A \$100.00 antenna down the tube because of poor manufacturing design. Not being one to give up easily I called again the next day and talked to the AEA National Sales Manager. He confirmed what his service man had told me. Again, being bull headed, I fiddled with the antenna for several evenings and think I can fix it but it will take some lathe work and etc.. In the meantime, if you have been thinking about owning one, better think some more. If you already have an AEA 440 Isopole, better be very careful when attaching coax to it. Pretty crummy thing to find out you bought a lemon!!

Al WB7SIC

October 1993

AT THE NEXT MEETING

Please disregard the article on the right, which is on the front page of this 'letter'. The program shown was last month. Would'nt want anyone to be mislead. We might change our format a little and announce the upcoming program only in one place so as to eliminate any further information error. The Board meeting notice is in need of changing as the meeting is over by the time you get the newsletter. We have'nt had any club members as meeting guests for over a year anyhow?? How come? Drop in and stir up some dust. We could use some fresh input!

'SIC'

At the Next Meeting:

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Club meeting October 13. This month's program is given by Eric LeMoine, KB7TSN about his experience of taking Ham radio along with him on a recent climb of Mt. McKinley and getting a grade school involved in his climb via radio. Join us!



"Here's a choke that will fix the whole problem!"

OTVARC Club Contacts

OTVARC Executive Board

President	Dale Mosby	N7PEX	640-0217
Vice Pres	Alan Churchill	AA7CV	590-2305
Secretary	Brad Beach	N7NVC	657-1781
Treasurer	Carl Clawson	WS7L	629-5796
Trustee	Al Berg	WB7SIC	640-5456
Trustee	Dave Morrison	W7JXU	397-0442
Trustee	Ira Rubin	KF7QS	244-3070
Trustee	Lynn Hurd	WB7UNU	649-9152
Trustee	Wes Allen	K7WWG	649-3295

Other Club Contacts

ARRL Coordinator	Bob Orr	WF7Q	297-2732
Bunny Hunting	OPEN		
Contesting	OPEN		
DX News	Rich Jones	KG7FS	645-9417
Equipment Valuation	Randy Stimson	KZ7T	297-1175
Equipment Trustee	Al Berg	WB7SIC	640-5456
Emergency Services	Tim Taylor	N7UCA	292-5430
Field Day	Carl Clawson	WS7L	629-5796
Health & Welfare	Pat Griffiths	KA7UFG	649-0837
Member Badges	John Klein	KA7ICV	281-0798
Newsletter Editor	OPEN		
Newsletter Layout	Doug Reeves	N6XHW	833-8504
Newsletter Distribution	Al Berg	WB7SIC	640-5456
Nomination of Officers	Alan Roehl	KO7B	292-5243
Project Night	Open		
Public Relations	Bill Merwin	N7VZF	644-1974
Public Service	Randy Stimson	KZ7T	297-1175
Repeater	Wes Allen	K7WWG	649-3295
RFI & TVI	Dale Mosby	N7PEX	640-0217
Satellites	Red Robert	AA7CP	357-5747
Scholarship	Pat Griffiths	KA7UFG	649-0837
Sea-Pac	Al Berg	WB7SIC	640-5456
	Brad Beach	N7NVC	657-1781
	Jim Schaeffer	KB7ADH	245-2518
	Alan Churchill	AA7CV	639-5660
Technical	Joe Boyd	N7VZS	678-2188
Tower Ordinances	Stan Griffiths	W7NI	649-0837
Trailer	Dee Lynch	KA7NPN	646-4580
Training (Code)	Tom Durell	KG7RD	
Training (Novice/Tech)	Dave Morrison	W7JXU	645-8788
Training (Upgrade)	Joe Boyd	N7VZS	678-2188
VE Testing	Alan Roehl	KO7B	292-5243
VE Test Schedule	John Klein	KA7ICV	281-0798
VHF/UHF	Bill Roth	N7RYW	297-7605

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OTVARC Club Information

Purpose: The Oregon Tualatin Valley Amateur Radio Club, a non-profit corporation, wants to be instrumental in helping the prospective as well as established Amateur to become a proficient communicator in the Amateur Radio Service.

Additionally, the intent is to promote the advancement of Amateur Radio Service through the following five objectives:

1. Education & training of new and licensed Amateurs.
2. Public Service during public events & community activities.
3. Emergency communications during emergencies & disasters.
4. Hobby enhancement through meetings, nets & contests.
5. Social contact with other amateurs & interested persons.

Special Service Club: OTVARC is an ARRL Special Service Club. The ARRL grants us this distinction due to our participation in emergency preparedness exercises, public service events and other service-oriented programs. In addition, continuing educational and training programs are conducted for FCC licenses. OTVARC benefits from you joining the ARRL through OTVARC. To join or renew your membership in the ARRL, contact the treasurer at any regular meeting.

Newsletter: The OTVARC *Oscillator* is the club newsletter. It is published monthly and is usually mailed on the first of the month. The opinions, views and recommendations of its contributors are not necessarily those of the Club, it's officers, advertisers or the editorial staff.

Correspondence: All correspondence may be sent to OTVARC, PO Box 5132, Aloha, OR 97006-0132.

Advertising: Classified ads are free to all paid up members. Display ads are available to approved commercial interests. To place an ad, mail your camera ready copy to the address above and indicate the size desired. All display ads run for six months at a time from January through June and July through December. All ads must be paid for in advance. Rates for 1993 are as follows:

Full Page	8" X 10"	\$200 for 6 months.
Half Page	8" X 5"	\$125 for 6 months.
Qtr Page	4" X 5"	\$75 for 6 months.
Bus Card	2" X 3"	\$35 for 6 months.

Meetings: We have two meetings per month. The board meeting is on the first Wednesday of each month. All club business is conducted at this meeting. All members are welcome to attend. Contact the President for location and time. The general meeting is on the second Wednesday of each month at the Beaverton Elks Club, 3500 SW 104th Ave (1 block off Canyon road). Meetings start at 7PM. If you would like to come early, you can get a nice meal from the Elks for less than \$6.

Membership: OTVARC is open to anyone who breathes. You do not need to be a licensed radio amateur to join. Dues are as follows: Full member, \$10/yr; Associate member (nonlicensed), \$10/yr; Family members of full member, \$5/yr; Life memberships available - see Treasurer. Only full members and life members may vote on club business and serve as club officers. All memberships expire on the last day of the calendar year. If you would like to join during the year, see the club Treasurer for prorated dues.

How to Join: Simply mail the Member Application and Renewal Form along with your dues to the address above.

QSL CARDS

1 DAY SERVICE

100-\$10.00

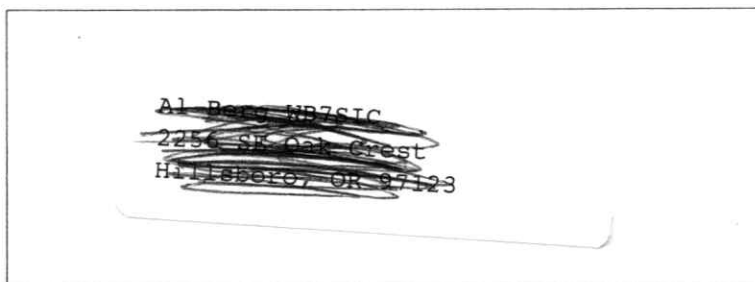
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